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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,219	09/22/2000	Yunzhou Li	2204/A42	9843

34845 7590 08/18/2004

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EXAMINER	
LY, ANH VU H	

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/668,219	LI, YUNZHOU	
	Examiner	Art Unit	
	Anh-Vu H Ly	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This communication is in response to applicant's amendment filed June 15, 2004. Claims 1-57 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al (US Pub No. 2002/0004843 A1) in view of Cheng (US Patent No. 6,600,724). Hereinafter, referred to as Andersson and Cheng.

With respect to claims 1, 6, 13, 19, 24, 30, 37, 45, and 51, Andersson discloses in Fig. 1, a communications system in which node A has plurality of interfaces Ib and Id for connecting to nodes B and D (a networking device having a plurality of communication interfaces). Andersson discloses in Fig. 2, a forwarding table having a primary path and a corresponding recovery path; wherein, the communication network pre-computes (bridged routing entry is created before requiring a bridge) recovery paths to protect various primary paths. Andersson discloses in page 3, paragraph 48 that, upon detecting a network failure, the network nodes switch certain communications to one or more recovery paths in order to bypass the network failure. This implies that the network node should or should not switch to the backup interface as a function of the network changes in the communication system (subsequently determining that a bridge is

needed between the first communication interface and the second communication interface). Andersson discloses in Figs. 3A-C, different techniques employed by the network nodes for switching to the backup interface when the primary interface fails (establishing the bridge between the first communication interface and the second communication interface using the bridged routing entry).

Andersson does not disclose having a bridged routing table, which is separated from a main routing table, for storing the created bridged routing entry. Cheng discloses (col. 3, lines 25-27) that the pre-computed routes are stored in linear routing tables (considered as bridged routing table by examiner). Herein, linear routing tables are tables that stored pre-computed routes and are separated from the main routing table. Further, the pre-computed routes in the linear routing tables including links and nodes, which further including port interfaces. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include storing the pre-computed recovery paths in the linear routing tables, which are separated from the main routing table, in Andersson's system, as suggested by Cheng, to reduce memory size of the main routing table and to speed up look-up time when searching for routing information in absent of failure.

With respect to claims 2, 7-8, 14-15, 20, 25, 31-32, 38-39, 46-47, and 52-53, Andersson discloses in Fig. 2, destination C is designed with two outgoing interfaces B and D (adding second communication interface as an outgoing interface to a routing entry having first communication interface as an outgoing interface). Herein, destination C is considered as one entry by the examiner even though destination C taking two rows in the table.

With respect to claims 3, 9, 16, 21, 26, 33, 40, 48, and 54, the limitation "creating a bridged routing vector for bridging the first communication interface and the second communication interface" is inherent to Andersson. As shown in Fig. 2, an entry of forwarding table comprising a primary interface and the backup interface. Further, Andersson discloses in Figs. 3A-C, different techniques employed by the network nodes for switching to the backup interface when the primary interface fails. For the switching fabrics of the network nodes to implement the switching of data from primary interface to backup interface, the forwarding table is transformed into forwarding vector and implemented by the switching fabric.

With respect to claims 10, 17, 34, 41, 49, and 55, Andersson discloses in Fig. 2 that, destination C is indicated twice (reference to destination C of the primary interface) in both rows of the forwarding table.

With respect to claims 4, 11, 22, 27, 35, and 42, Andersson discloses in page 3, paragraph 48 that, upon detecting a network failure, the network nodes switch certain communications to one or more recovery paths in order to bypass the network failure (detecting a failure affecting communications over the first communication interface).

With respect to claims 5, 12, 18, 23, 36, and 50, Andersson discloses in Fig. 1, a communications system in which node A has plurality of interfaces Ib and Id for connecting to nodes B and D (plurality of communication interfaces comprising a plurality of line cards).

With respect to claims 28-29, 43-44, and 56-57, Andersson discloses a system, device, and method for bypassing network changes in a routed communication network, therefore, such method is stored in the memory of the network nodes (program embodied in a computer medium) and such instruction is carried by a signal within the network nodes (program embodied in a data signal).

Response to Arguments

3. Applicant's arguments with respect to claims 1-57 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Walia et al (US Patent No. 6,678,274 B1) discloses method and system for managing forwarding tables.

Hsing et al (US Patent No. 6,167,025) discloses methods and apparatus for restoring connections in an ATM network.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 8/17/04